

GHAJAR EXHIBIT 46

11/6/2024

Richard Kadrey, et al. v. Meta Platforms, Inc.
Highly Confidential - Attorneys' Eyes Only

Joelle Pineau

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE MATTER OF:)
RICHARD KADREY, et al.,)
Plaintiff,)
vs.) C.A. NO.:
META PLATFORMS, INC.,) 3:23-cv-03417-VC
Defendant.)

** HIGHLY CONFIDENTIAL - ATTORNEYS EYES ONLY **

VIDEOTAPED DEPOSITION OF JOELLE PINEAU
Montreal, Quebec, Canada
Wednesday, November 6, 2024

Stenographically Reported by:
ANGELA JANSSEN, CSR,
Commissioner of Oaths

DIGITAL EVIDENCE GROUP
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1 Q. What is your current home
2 address?

[REDACTED]

5 MS. HARTNETT: At this time I would just
6 like to designate the transcript under
7 Protective Order as Highly Confidential
8 and will make designations accordingly,
9 including of any personal information as
10 necessary.

11 BY MR. YOUNG

12 Q. Great. Thank you counsel.
13 And you are presently employed,
14 correct?

15 A. Yes.

16 Q. By Meta Platforms?

17 A. Yes.

18 Q. What is your present title at
19 Meta?

20 A. VP AI Research.

21 Q. VP AI Research?

22 A. Yes.

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1 Q. Vice-president of AI research?

2 A. Yes.

3 MR. YOUNG: Can we go off the record,
4 please briefly?

5 THE VIDEOGRAPHER: Going off the record
6 at 10:09 a.m.

7 --- Whereupon short break taken

8 THE VIDEOGRAPHER: Going back on the
9 record at 10:10 a.m.

10 MR. YOUNG: We just had a brief
11 interruption on the record and we are
12 now proceeding.

13 BY MR. YOUNG

14 Q. I apologize, Ms. Pineau, for the
15 interruption but I believe you were -- you just
16 testified that you were currently the VP of AI
17 research at Meta?

18 A. Yes.

19 Q. Okay, great. And how long have
20 you been in that role at Meta?

21 A. In that role specifically, two
22 and a half years.

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1 MS. HARTNETT: Objection to the form.

2 A. FAIR focus is on exploratory
3 research. So that means we explore lots of
4 different hypotheses within the space of AI.

5 And so there wasn't really any
6 constraints on the set of topics as long as it
7 was relevant to AI. So the team worked on
8 computer vision, and on optimization and on core
9 machine learning. The team in Montreal, that is.

10 BY MR. YOUNG

11 Q. Okay. At some point did your
12 responsibilities include developing and training
13 large language models?

14 MS. HARTNETT: Objection to the form.

15 A. Over time I took on management of
16 a greater number of teams beyond Montreal.

17 Some of these teams were involved
18 in the training of large language models.

19 BY MR. YOUNG

20 Q. Approximately when did you start
21 managing people who were responsible for
22 developing large language models?

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1 MS. HARTNETT: Objection to the form.

2 A. Probably around 2019, 2020.

3 BY MR. YOUNG

4 Q. Were those individuals primarily
5 located in Paris and New York?

6 MS. HARTNETT: Objection to the form.

7 A. It was later that I took on
8 responsibilities for the teams in Paris and New
9 York.

10 In those early years it was
11 mostly maybe teams in Seattle or west coast.
12 Teams in New York and Paris came under my
13 responsibility probably more in 2022.

14 BY MR. YOUNG

15 Q. Okay.

16 Do you know who Aurelian
17 Rodriguez is?

18 A. Yes, I know Aurelian.

19 Q. Who is he?

20 A. Aurelian was a research manager
21 of our Paris, one of our Paris teams, yeah.

22 Q. And was he working under your

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1 Q. All those individuals, do you
2 remember them, were they working with LLM's at
3 Meta?

4 MS. HARTNETT: Objection to the form.

5 A. The specific project they were
6 working on was on theorem proving and as part of
7 that project, they were training LLM's.

8 BY MR. YOUNG

9 Q. What is theorem proving?

10 A. It's the ability for a computer
11 to take an AI system, to take a mathematical
12 theorem, so a statement, and to show whether the
13 statement is true or untrue using automatic AI
14 reasoning tools.

15 Q. Why would they need to train LLMs
16 in order to do theorem proving?

17 MS. HARTNETT: Objection to the form.

18 A. Mathematics is a language in and
19 of itself. It has a set of symbols. And these
20 symbols carry meaning.

21 So in that sense it's a language,
22 a very specialized language and to solve many,

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1 many different theorems, you need to have a
2 flexible understanding of mathematical language.
3 And so training human language models is one way
4 to learn how to train better models for theorems.

5 BY MR. YOUNG

6 Q. Do you know if that project had a
7 name at Meta?

8 A. It was called a theorem proving
9 project for many years and then they called the
10 model Genesis for a while.

11 Q. Okay. And Genesis became
12 something else later in 2023, correct?

13 MS. HARTNETT: Objection to the form.

14 A. Yes. Genesis evolved into our
15 LLaMA model.

16 BY MR. YOUNG

17 Q. And that would be LLaMA 1 right?

18 A. Yes.

19 Q. LLaMA 1 does a lot more than
20 theorem prove, right?

21 MS. HARTNETT: Objection to the form.

22 A. Yes, LLaMA 1 was more general

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1 than theorem proving.

2 Q. LLaMA 1 is what's known as
3 foundational model?

4 A. There's many names given to it.
5 It's a neural network that treats language.

6 Q. What is a foundational model?

7 MS. HARTNETT: Objection to the form.

8 A. There's not a well agreed upon
9 definition of a foundational model.

10 Roughly speaking, it's a model
11 that's able to encode rich amounts of information
12 in a pretty general form.

13 BY MR. YOUNG

14 Q. Such that it can be fine-tuned
15 and specialized to serve specific purposes
16 perhaps?

17 MS. HARTNETT: Objection to the form.

18 A. Yes.

19 BY MR. YOUNG

20 Q. Now Genesis. Genesis also had a
21 lot more purposes than just proving theorems,
22 correct?

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1 Q. Is it fair to say one of the
2 goals of the Genesis project or the LLaMA project
3 was to match Chinchilla?

4 A. I think it's fair to say that the
5 goal was to reproduce Chinchilla. Maybe not
6 match.

7 I think we had the ambition to
8 exceed.

9 Q. Okay.

10 A. But using essentially similar
11 recipe.

12 Q. Okay. And in your opinion, did
13 Meta succeed in reproducing Chinchilla with the
14 LLaMA 1 model?

15 A. I'd have to look into the paper
16 which is my Exhibit 1. We do have results that
17 compare to Chinchilla.

18 There's a number of these
19 results. But to pick out a few with respect to
20 natural questions in Table 4, we compare the
21 results for LLaMA versus Chinchilla. And we see
22 that we do have better results than them when

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1 REPORTER'S CERTIFICATE

2

3 I, ANGELA JANSSEN, CSR,

4 certify;

5

6 That the foregoing proceedings were
7 taken before me at the time and place therein set
8 forth, at which time the witness was put under
9 oath by me;

10

11 That the testimony of the witness
12 and all objections made at the time of the
13 examination were recorded stenographically by me
14 and were thereafter transcribed;

15

16 That the foregoing is a true and
17 correct transcript of my shorthand notes so taken.

18

19

20


A horizontal line is drawn across the page, starting from the left margin and ending under the signature.

21 PER: ANGELA JANSSEN, CSR

22

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1 CERTIFICATE OF REPORTER

2

3 I, Angela Janssen, the officer before whom the
4 foregoing deposition was taken, do hereby certify
5 that the witness whose testimony appears in the
6 foregoing deposition was duly sworn by me; that
7 the Testimony of said witness was taken by me in
8 shorthand, using Computer Aided Realtime, to the
9 best of my ability and thereafter reduced to
10 written format under my direction; that I am
11 neither counsel for, related to, nor employed by
12 any of the parties to the action in which the
13 deposition was taken, and further that I am not
14 related or any employee of any attorney or counsel
15 employed by the parties thereto, nor financially
16 or otherwise interested in the outcome of the
17 action.

18

19

A handwritten signature in cursive script that reads "A. Janssen". The signature is written in black ink and is positioned above a horizontal line.

20 Angela Janssen, CSR

21 Chartered Shorthand Reporter

22 Commissioner of Oaths